

## Assessment Schedule – 2017

### Agricultural and Horticultural Science: Demonstrate understanding of how the production process meets market requirements for a New Zealand primary product(s) (91531)

#### Evidence Statement

Achievement	Achievement with Merit	Achievement with Excellence
“Demonstrate understanding” involves <b>explaining</b> how the production process meets specific market requirements for a New Zealand primary product(s).	“Demonstrate in-depth understanding” involves <b>explaining, in detail</b> , how the production process meets specific market requirements for a New Zealand primary product(s).	“Demonstrate comprehensive understanding” involves <b>using detailed explanations to justify</b> how the production process used meets specific market requirements for a New Zealand primary product(s).

N1	N2	A3	A4	M5	M6	E7	E8
Has no useful information about specific attributes desired.  <i>OR</i> Has a partial explanation of the effect of a relevant production process that has an impact on the attributes desired by consumers of this product, but it is not linked.	Some information about specific attributes desired.  <i>OR</i> A partial explanation of the effect of a relevant production process that has an impact on the attributes desired by consumers of this product for ONE phase, with an attempt at another: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul>	The specific attributes desired are described in general terms.  <i>AND</i> A basic (poorly linked) explanation of the effect of a relevant production process that has an impact on the attributes desired by consumers of this product for TWO phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul>	The specific attributes desired are described in detail.  <i>AND</i> An adequate explanation of the effect of a relevant production process that has an impact on the attributes desired by consumers of this product for TWO phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul>	The specific attributes desired are described, using specific details / data.  <i>AND</i> Sound and thorough (use of data <i>OR</i> well-linked) explanation of at least TWO of the THREE relevant production processes that have an impact on the attributes desired by consumers of this product for TWO different phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul> <i>AND</i>	The specific attributes desired are described, using specific details / data.  <i>AND</i> Sound and thorough (use of data <i>AND</i> well-linked) explanation of THREE different relevant production processes that have an impact on the attributes desired by consumers of this product for at least TWO phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul> <i>AND</i>	The specific attributes desired are described, using specific details / data.  <i>AND</i> Sound and thorough (use of data <i>AND</i> well-linked) explanation of THREE different relevant production processes that have an impact on the attributes desired by consumers of this product for at least TWO phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul> <i>AND</i>	The specific attributes desired are described, using specific details / data.  <i>AND</i> Sound and thorough (use of data <i>AND</i> well-linked) explanation of THREE different relevant production processes that have an impact on the attributes desired by consumers of this product for at least TWO phases: <ul style="list-style-type: none"> <li>• establishment</li> <li>• growth</li> <li>• harvest.</li> </ul> <i>AND</i>

				<p>An adequate explanation for a third practice and/ or period.</p>	<p>An attempt to justify a single management practice they consider would have the <b>greatest impact</b> on the <b>overall price received</b> and the <b>quantity</b> available for sale for the producer, but lacking detail / data and not well structured.</p>	<p>Partial justification of a specific manipulation that has the greatest effect on the economic impacts for a farmer when producing this product – in terms of costs, timing, and yield – as well as meeting the attributes desired by consumers, but lacking detail / data <i>OR</i> no comparative manipulation.</p>	<p>Full and comprehensive justification of a specific manipulation that has the greatest effect on the economic impacts for a farmer when producing this product – in terms of costs, timing, and yield – as well as meeting the attributes desired by consumers, with relevant detail / data <i>OR</i> comparative manipulation.</p>
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NØ No response; no relevant evidence.

Part	Possible answers in abbreviated form
A + C	<p data-bbox="230 228 566 252"><u>Heavy lamb – early contract</u></p> <p data-bbox="230 292 1532 316">Our heavy lamb contract has been popular in the past. Here are the conditions your stock would need to meet:</p> <ol data-bbox="230 395 1464 978" style="list-style-type: none"> <li data-bbox="230 395 808 419">1. Age                    New season's lamb only.</li> <li data-bbox="230 451 992 475">2. Price                    \$5.90 per kg (<math>\\$5.90 \times 23.0 \text{ kg} = \\$135.70</math>)</li> <li data-bbox="230 515 813 539">3. Weight range        20–25 kg carcass weight.</li> <li data-bbox="230 587 734 611">4. Timing                    December to May.</li> <li data-bbox="230 667 1010 754">5. Numbers                Minimum 50 per line. Must be separate from others on that day. May be restrictions in any one month.</li> <li data-bbox="230 786 779 834">6. Grading                All grades acceptable. Maximum 5% fat.</li> <li data-bbox="230 914 1464 978">7. Penalties                10 cents per kg penalty for every 10% reduction in the number per line that meet all the conditions (including weight and contracted total).</li> </ol> <p data-bbox="510 1010 1111 1034"><b>N.B. These penalties will be strictly adhered to.</b></p> <p data-bbox="230 1098 1070 1121">Source (adapted): <a href="http://bluesky.co.nz/Supply/Supplier/Heavy-Lamb-Contract-Conditions">http://bluesky.co.nz/Supply/Supplier/Heavy-Lamb-Contract-Conditions</a></p>

<p><b>B</b></p>	<p><u>Lambs</u></p> <p>In breeding for optimum lamb growth, most genetic improvement comes from the selection of rams used. Some breeds will result in faster growing, earlier maturing lambs, while other breeds will be more suited to growing lambs that will achieve heavier carcass weights without the risk of becoming over-fat. Increases in carcass weight of up to 30% can be achieved by using specialist sires, etc.</p> <p><u>Feijoas</u></p> <p><i>Pruning</i></p> <p>Growers aim to achieve a compact, single-stemmed, multi-branched, round tree. Pruning may be required in many instances in order to achieve this, especially with certain cultivars or growing conditions. Most pruning is done in winter straight after harvesting, but a summer prune once flowering is finished will improve access at harvest and promote growth in the centre of the tree. Trees are limited to 2 m to allow for hand harvesting without the need for ladders. Branch thinning is required in order to enhance pollination and light penetration, thus increasing the flowering on the centre, showing shoots, etc.</p> <p><u>Broiler chickens</u></p> <p><i>Feeding</i></p> <p>Regulating growth by feed can be done by adjusting feed quality in terms of nutritional value, the physical presentation of feed pellet v mash or the quantity the birds are allowed to eat. Cereals provide energy; and soybean meal, blood and bone meal, or fishmeal act as protein sources. Two amino acids, lysine and methionine, are added because they are deficient in these protein sources. The nature of the fat in the diet is monitored, otherwise fat deposits in the body can become more liquid than usual, producing “oily bird” syndrome. Protein sources are expensive, and in order to be cost-efficient, computerised programming of feed is essential. Some animal health products are also added, e.g. Coccidiostat is a chemical that suppresses protozoa, which cause an infection called coccidiosis. If this infection is left uncontrolled, the birds develop a bloody diarrhoea and can die. The Coccidiostat should not be present in the meat, so growers stop feeding the chemical three days before slaughter. Pelleted feed ... etc.</p> <p><i>Temperature and ventilation</i></p> <p>Air temperature is critical to bird performance in the early stages of growth. Like most warm-blooded animals, chicks are sensitive to cold and infection, so for the first two weeks of life they are placed under heat lamps. Initially the temperature should be 30°C, but after the heat lamps are turned off, the birds should be able to adjust to normal changes in temperature. The ideal temperature is 22°C. Chicks will huddle together and become stressed if cold, or spread out from the lamps if it is too hot. Both factors divert feed energy to temperature regulation rather than meat production ... etc.</p>
<p><b>C</b></p>	<p>ALL factors, including breed, stocking density, water management, temperature, ventilation, and feeding contribute to the economic impacts, including costs, timing, and yield, as well as meeting the attributes desired by consumers of broiler chickens at harvest. However the most important factor, I believe, is disease control for both the economic impacts, including costs, timing, and yield, as well as meeting the attributes desired by consumers of broiler chickens. This is because regardless of the environment the birds are grown in (indoor, free range), the disease control influences both the growth rate and quality of meat for sale more than other factors. Without correct disease control, etc ... disease can spread quickly in a broiler environment. Diseased animals have no commercial value, etc.</p> <p>Even though temperature is a key factor in the first two weeks of life, they can still maintain good growth rates if the animals are healthy. Further, the health of the animal ensures that a quality, disease-free product is available for sale, etc.</p> <p>Whilst ventilation ...</p> <p>Therefore I believe ... for the following reasons ...</p>

**Cut Scores**

<b>Not Achieved</b>	<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
0 – 2	3 – 4	5 – 6	7 – 8